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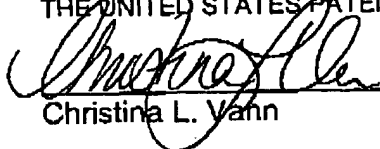**Art Unit:** 2122

Examiner: Ted T. Vo

Phone: 703-308-9049

From: Raymond R. Tabandeh
Reg No. 43,945

Re: Application No. 09/478,682
Filed January 6, 2000
Entitled MODULARIZING A COMPUTER PROGRAM FOR TESTING AND
DEBUGGING

File: 36463/RRT/P396

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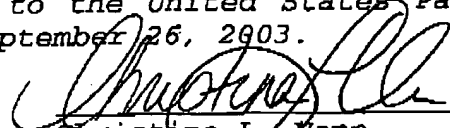**For Office Services Use Only**
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PATENT
RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2122

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Appl No.	: 09/478,682	Confirmation No. 19947 2 6 2003
Applicant	: Adam K. Kolawa, et al.	
Filed	: January 6, 2000	
Title	: MODULARIZING A COMPUTER PROGRAM FOR TESTING AND DEBUGGING	

TC/A.U.   : 2122
Examiner   : Ted T. Vo

Docket No. : 36463/RRT/P396

Customer No. : 23363

RESPONSE TO FINAL OFFICE ACTION

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September 26, 2003

Commissioner:

In response to the Final Office action of July 17, 2003 and an interview with the Examiner on September 26, 2003, Applicant has the following remarks:

Claims 1-37 are pending in the application. Claims 1-14, 19-27, 32-35, and 37 are rejected under 35 U.S.C. § 102(b) as being fully anticipated by Cline et al. (U.S. 5,313,616); claims 15, 28 and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Cline in view of Beizer, "Software Testing

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Techniques," 1986. Applicants submit that all of the pending claims are patentable over the cited references, and reconsideration and allowance of these claims are respectfully requested.

The independent claims 1, 32, and 37 include, among other limitations, "parsing a source code of the computer program to identify functions in the source code," "responsive to the identified functions, generating stubs for the source code," "instrumenting the parsed source code with the generated stubs," "compiling the instrumented code," and "testing the compiled code."

Independent claim 19 includes, among other limitations, "parsing the source code of the computer program to identify a plurality of smaller components in the source code;" "based on the identified plurality of smaller components, generating stubs to replace some of the identified plurality of smaller components," and "testing the plurality of smaller components individually."

However, Cline does not teach or suggest "parsing a source code of the computer program to identify functions in the source code," as required by the independent claims 1, 19, 32, and 37. Instead, Cline describes parsing (and instrumenting) an executable application program.

Applicants respectfully disagree with the assertion in the Final Office action that the disclosure of "scans the input source text for procedure calls," in Col. 16 lines 29-30 of Cline, anticipates the limitation of "parsing a source code of the computer program to identify functions in the source code,"

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in the independent claims 1, 9, 32, and 37. Cline clearly states that "[t]he resultant object module, like all object modules, includes a text (i.e. instruction) section and a data section which are loaded into separate areas in system memory at execution time." Col. 16, lines 21-24. Therefore, the "input source text" referred to in col. 16, line 29 and the Office action is the text section of the object module (code) and not the source code.

The purpose of Cline's method is to certify "that tested and verified application programs will run on any hardware and operating systems which were designed in conformance with a set of system rules. This invention therefore allows application program developers to produce software which conforms to open standards, thereby greatly increasing the potential market for their application programs." Col. 2, lines 58-61. As this requires and Cline clearly emphasizes, the method of Cline operates on an executable code and not source code.

For example, Cline emphasizes, in col. 15, lines 50-55 that "in a first step 60 the DBV inserts monitoring code into the application program's executable binary code. The application program is then exercised in a test harness in a step 62 so that the monitoring code can monitor and record system and procedure calls in a log database." Emphasis added. Furthermore Cline describes "a system loader ld is used to relocate an object module called spy.o (which contains the dynamic verification code) to the end of the input program text in a step 74. The total size of the resultant object module is then determined in a step 76." Col. 16, lines 17-21. The object module (spy.o) is

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clearly an object code that is relocated to the end of the input program text. The result is still an object module ("The total size of the resultant object module is then determined in a step 76."), therefore, the input program text is also an object module.

Furthermore, Cline does not teach or suggest "responsive to the identified functions, generating stubs for the source code" as required by the independent claims 1, 32, and 37. Cline describes that after total size of the resultant object module is determined, "DBV then scans the input source text for procedure calls (recognized by the bsr or bsr.n instructions) and makes a list of all of the calls by location and target in a step 82. As a call target is listed, a 'stub' for that call is also generated and the current total stub size is tallied." Col. 16, lines 29-34. Therefore the stubs of Cline are NOT generated "responsive to the identified functions" in the source code, not are they generated "for the source code," as required by the independent claims 1, 32, and 37.

Moreover, the method of Cline does not perform "instrumenting the parsed source code with the generated stubs," "compiling the instrumented code," and "testing the compiled code," as required by the independent claims 1, 32, and 37.

Finally, the method of Cline does not perform "parsing the source code of the computer program to identify a plurality of smaller components in the source code," as required by the independent claim 19. Instead, Cline describes parsing (and instrumenting) an executable application program. For the same reasons mentioned above, Cline does not teach or suggest the

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limitation of "based on the identified plurality of smaller
components, generating stubs to replace some of the identified
plurality of smaller components," as required by the independent
claim 19.

As a result, independent claims 1, 19, 32, and 37 are not
anticipated by Cline.

Dependent claims 2 and 33, include, among other
limitations, "generating source code for replacing the name of
externally called functions within the source code with the name
of specific functions with same signature as the externally
called functions." This limitation is not "inherent from the
teaching of Cline in Col. 18, lines 22-26." See Final Office
action, page 3, second to last paragraph. Because Cline
operates on the object code and not source code. In deed, the
line just before the cited section, cline emphasizes that
"[a]ppropriate changes are made to other data structures in the
object file headers in a step 94 to account for the additional
space. For example, the symbol table, line number table, etc.
must be relocated." Col. 18, lines 16-20. Thus, dependent
claims 2 and 33 are not anticipated by Cline either.

As a result, neither Cline, nor Beizer, alone or in
combination, teach or suggest the above-mentioned limitations,
required by independent claims 1, 19, 32 and 37, and dependent
claims 2 and 33. The remaining dependent claims 2-18, 20-31 and
34-36 all depend, directly or indirectly from their respective
independent claims. Therefore, these claims are also patentable
over the cited references, as being dependent from allowable
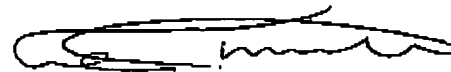
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independent claims and for the additional limitations they include therein.

In view of the foregoing remarks, it is respectfully submitted that this application is now in condition for allowance, and accordingly, reconsideration and allowance are respectfully requested.

Respectfully submitted,

CHRISTIE, PARKER & HALE, LLP

By _____

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626/795-9900

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